AIDS

A. GENERAL CONSIDERATIONS

Acquired Immune Deficiency Syndrome (AIDS) is the result of a viral infection that attacks the body's immune system and is characterized by a depletion of the helper T cells with a replication of the virus. The victim eventually succumbs to opportunistic diseases. However, persons may remain asymptomatic for as long as 10 or more years after infected. Sources of the infection include homosexual and heterosexual contacts, contaminated needles in drug users, blood transfusions, and prenatally.

B. ESSENTIALS OF DIAGNOSIS

1. Symptoms vary from asymptomatic screening test positive patients to those with AIDS.
2. Swollen lymph nodes.
3. Fatigue and malaise.
4. Fever and night sweats.
5. Diarrhea.
6. Gradual weight loss.
7. Neurologic deficits.
8. Concomitant opportunistic infections include:

    a. Candida albicans oral infections (Thrush).
    b. Pneumocystis carinii pneumonia.
    c. CMV.
    d. Mycobacterium avium and Mycobacterium tuberculosis.
    e. Toxoplasmosis.
    f. Herpes Zoster (Shingles).

9. Kaposi's sarcoma.

C. LABORATORY TESTS

1. Screening test for HIV (ELISA), may be false positive, always needs to be confirmed by Western Blot.

D. LABORATORY FINDINGS

1. Positive screen requires further evaluation at one of the HIV Evaluation Units at NNMC Bethesda, NH Portsmouth, or NH San Diego.

E. COMPLICATIONS

1. Opportunistic infections and malignancies, 50% of patents will progress to AIDS within 10 years of becoming infected.

F. TREATMENT

1. Treat any complicating infections.
2. All persons with <500 T_4 cells need evaluation for Pneumocystis carinii prophylaxis (Sulfamethoxazole-Trimethoprim vs. aerosol Pentamidine).

G. DISPOSITION

1. The patient will need to be assigned to a station near a specified medical facility in CONUS.
2. Will have to be evaluated at one of the 4 HIV Evaluation Units

ENDEMIC TYPHUS

A. GENERAL CONSIDERATIONS

This is also known as Murine Typhus. This is an acute rickettsial disease transmitted by rat fleas. Clinically, it is characterized by fever (for about two weeks), headache, maculopapular rash and myalgia. Incubation time is about one - two weeks. The infectious agent is transmitted via the rat flea (scratching or inhaling the dried feces). Therefore, control of the rats and fleas plays an enormous role in the control of the disease.

B. ESSENTIALS OF DIAGNOSIS

1. It is common to have a prodrome of symptoms:

   a. Headache, backache, and arthralgia.
   b. Nausea, malaise and transient mild fever occasionally occur.

2. Onset of symptoms is usually sudden, but can be gradual.

   a. Headache (worsens), chills and fever (to 104^{0}F).
   b. Then in a few hours - nausea, prostration and malaise.

3. Fever - to 104^{0}F lasting about two weeks.
4. Rash - a generalized maculopapular rash. Usually develops on the $5\text{-}7^{th}$ day and lasts 4-8 days.
5. Nonproductive cough is common.
6. The headache is severe and frontal in location.
7. Other neurological symptoms are rare.
8. Photophobia is common.
9. They recover rapidly.

C. LABORATORY TESTS

1. WBC.

NOTE: SAVE ACUTE AND CONVALESCENT SERUM TO CONFIRM DIAGNOSIS UPON RETURN TO PORT OR CONUS.

D. LABORATORY FINDINGS

1. WBC is variable.

E. COMPLICATIONS

1. Transient partial deafness.
2. For the most part, otherwise healthy adults have few complications.

F. TREATMENT

1. Doxycycline 200mg in a single dose, then Tetracycline 500mg PO q 6h x 14 days.
2. Supportive care, including IV and diet.
3. Delouse the patient.

G. DISPOSITION

1. Contact a Medical Officer for further advice and MEDEVAC.

NOTE: SEE EPIDEMIC TYPHUS BELOW

EPIDEMIC TYPHUS

A. GENERAL CONSIDERATIONS

This is very similar clinically, but more severe. It has only a macular rash, more neurological signs (stupor, coma & generalized spasticity), and you may see renal failure. Additionally, hypotension, tachycardia and cyanosis may occur. Treatment with antibiotics is the same. Add oxygen at 4-6 liters/min.. Complications are more common and severe: pneumonia, major vessel obstruction, gangrene of digits and earlobes, myocarditis and uremia. This patient should be MEDEVACED.

INFECTIOUS MONONUCLEOSIS

A. GENERAL CONSIDERATIONS

Infectious mononucleosis is caused by the Epstein-Barr virus. It is characterized by a short febrile period, malaise, general adenopathy, sore throat, fatigue, and atypical lymphocytes.

B. ESSENTIALS OF DIAGNOSIS

1. Intermittent fever.
2. Pharyngitis - the most common symptom.
    a. Often exudative, may present as "Strep Throat", resistent to Tx.
3. Headache and malaise.
4. Diaphoresis.
5. Enlarged tonsils and anterior/posterior cervical nodes.
6. Hepatosplenomegaly occurs in 50% of young adults.
7. Maculopapular rash in 10% of patient population (avoid Ampicillin or Amoxicillin, as nearly 100% will develop a rash on these medications).

C. LABORATORY TESTS

1. Monospot.
2. WBC with differential (look for lymphocytosis with atypical lymphocytes).
3. Throat culture when available (only to rule out Group A Beta Hemolytic Strep infection).
4. If available, send off liver function studies.

D. LABORATORY FINDINGS

1. Positive monospot.
2. WBC normal or even decreased, but the differential reveals 10-30% atypical lymphocytes.
3. Throat culture may reveal streptococcus, which is present in 20% of the cases.

E. COMPLICATIONS

1. Upper Airway Obstruction
2. Secondary bacterial pharyngitis.
3. Hepatitis.
4. Hemolytic anemia.
5. Pericarditis and myocarditis.
6. Pneumonia.
7. Splenic rupture after abdominal trauma.

F. TREATMENT

1. Administer antibiotics if a secondary bacterial pharyngitis occurs.
2. Complete bed rest if malaise is severe.
3. Tylenol (not aspirin) for fever.
4. Hot salt water gargles prn.
5. Splenic precautions - when enlarged, very susceptible to rupture with abdominal trauma, may need to be restricted from contact sports or vigorous exertion.
6. Corticosteroids (with MO approval) for upper airway obstruction.

G. DISPOSITION

1. Contact a Medical Officer for further advice.
2. If Complications (in port) - the patient will need to be admitted or sent by the hospital on convalescent leave.
3. No isolation precautions needed, usually self limited, may need MEDEVAC for complications.

LYME DISEASE

A. GENERAL CONSIDERATIONS

This is a spirochetal, tickborne, inflammatory disorder, best recognized by an early skin lesion, **Erythema Chronicum Migrans (ECM)**. The disease can be found in the United States, Europe, USSR and Australia. It is caused by Borrelia burgdorferi. It is transmitted through the bite of ticks (Ixodes damminni). Deer and wild rodents are also reservoirs.

B. ESSENTIALS OF DIAGNOSIS

1. Incubation time is 3-32 days.
2. The first most easily recognizable sign is the skin lesion (ECM).
    a. Red macule or papule usually seen on the proximal portion of an extremity. It can expand to a size of 50cm.
    b. The lesion usually has central clearing (bullseye).
    c. Additionally, there may be several smaller lesions without central clearing.
    d. The lesion lasts for several weeks.
3. The patients may experience fever, chills, headache, malaise and fatigue with the lesion.
4. Neurologic involvement - within weeks to months of the onset of the ECM lesion:
    a. Meningitis.
    b. Chorea.
    c. Cranial neuritis.
    d. These symptoms may last for months and then resolve completely.
5. Arthritis - this is **the most common** sign (occurring in approximately one half the patients).
    a. Within weeks to months of the ECM lesion.
    b. Intermittent swelling and pain of major joints that generally lasts 1 week.
    c. The knees are **most commonly** involved.
    d. It is recurrent.
    e. The joints are swollen and warm, but usually not red.
6. Cardiac involvement - with conduction defects being the most common.

C. LABORATORY TESTS

1. CBC (Save acute convalescent sera for diagnostic testing on return to port or CONUS.)
2. Urinalysis.
3. RPR.

D. LABORATORY FINDINGS

1. Usually normal.
2. Negative.

E. COMPLICATIONS

1. Cardiac conduction defects including complete heart block.
2. Joint destruction - rare!
3. Neurologic involvement.

F. TREATMENT

1. The **best single** treatment is to instruct your crew to carefully inspect themselves after any potential exposure to ticks. The tick has to be attached to the patient at least 24 hours to transmit the disease.

2. Early antibiotic treatment shortens the duration of symptoms in early Lyme disease and prevents arthritis. It should be continued for at least 10 days or longer if symptoms persist (up to 20-30 days).

   a. Tetracycline 250mg or 500mg PO qid is the **first choice**.
   b. Pen V K 500mg PO qid is the second choice.
   c. Erythromycin 250mg PO qid is the third choice.

3. Aspirin 90mg/kg/day.

G. DISPOSITION

1. MEDEVAC.

MALARIA

A. GENERAL CONSIDERATIONS

Malaria is a severe, chronic relapsing protozoan infection of the blood. It is characterized by rigors, fever, splenomegaly and anemia. The disease in man is caused by P. Falciparum, P. Vivax, P. Malariae and P. Ovale. These are transmitted to man through infective mosquito's. Over 90% of the infections in man are caused by the first two forms listed above.

The incubation time is 10-14 days in P. Vivax & P. Falciparum and 18 days through 6 weeks in P. malariae. Clinical Malaria may be delayed for 6-12 months with P. vivax, and even longer when prophylaxis was taken. If the patient takes incomplete prophylaxis, the incubation period will be extended past the termination of the medication.

The most common symptoms are fever, chills, headache and backache. P. Falciparum can exhibit a variable clinical picture. More than one form of malaria (and other infectious diseases for that matter) can occur at the same time.

The reference most commonly used currently is: Navy Medical Department Guide to Malaria Prevention and Control, published by the Navy Environmental Health Center.

B. ESSENTIALS OF DIAGNOSIS

1. **The hallmark of the disease is the febrile paroxysm.** This reoccurs regularly in all but the Falciparum types.

   a. rigor - typically first, lasts 20-60 minutes. The cold stage.
   b. fever - the hot stage, up to 107°F, lasts up to 8 hours.
   c. sweating - the wet stage.

2. Nausea, vomiting, headache, backache.
3. May see splenomegaly and anemia.
4. The clinical syndrome is very non-specific. Malaria should be considered in all febrile patients who have been in a malarious area, even when they have taken prophylaxis.

C. LABORATORY TESTS

1. Thick and thin blood smears.
2. WBC with differential.
3. Urinalysis.

D. LABORATORY FINDINGS

1. Blood smears taken during the fever should show the parasite, however, take them irrespective of the fever.
2. WBC.

   a. Transient leukocytosis during the paroxysm.
   b. Leukopenia between paroxysms, with a predominance of lymphocytes and monocytes.
   c. May see thrombocytopenia in severe infections.

E. COMPLICATIONS

1. Blackwater fever.
2. Rupture of the spleen.
3. Death.
4. Cerebral malaria.
5. Shock lung.
6. Algid malaria.
7. Suppression of the immune system.

F. TREATMENT

1. Chemoprophylaxis as outlined in NMCI 6230.2 series.
2. If available, perform the Wilson Edeson test to determine if the patient was taking chloroquine. If the test is positive, the malaria is probably Chloroquine resistant.
3. All malaria cases should be treated as Chloroquine resistant P. Falciparum malaria, the most serious form of malaria. Treat with Fansidar or Quinine and Tetracycline.

   a. Exceptions to the above are cases acquired in Haiti, Central America, and the Middle East, which may be treated with Chloroquine.

4. P. Vivax and P. Ovale infections require treatment with Primaquine in addition to Chloroquine.
5. Supportive care.

G. DISPOSITION

1. Contact a Medical Officer immediately.
2. Prepare for MEDEVAC as per the Medical Officer and complications that may develop.

PLAGUE

A. GENERAL CONSIDERATIONS

Plague is an infectious disease characterized by lymphadenitis, petechial hemorrhage, toxemia, high fever, shock, mental confusion, staggering gait, delirium and coma. It is most frequently spread through the bite of the rat flea. There are three forms of plague: bubonic, pneumonic and septicemic. The incubation time is 2-8 days.

B. ESSENTIALS OF DIAGNOSIS

1. History of exposure in an endemic area.
2. Abrupt fever (102-105^{0}F) and chills.
3. Tachycardia.
4. Headache.
5. Vomiting.
6. Staggering gait.
7. Prostration.
8. Delirium.
9. Splenomegaly is common.
10. Lymphadenopathy (buboes) usually involving the inguinal or femoral nodes (because the site of entry is usually the lower extremities), but may occur in the axilla.
11. Petechial hemorrhages are common.
12. Bleeding from the nose, GI tract, GU tract etc. is common.

C. LABORATORY TESTS

1. WBC (Save acute and convalescent sera to confirm diagnosis or return to port or CONUS).

D. LABORATORY FINDINGS

1. WBC is 12-20,000.

NOTE: POSITIVE CULTURES (NOT WITHIN THE CAPABILITIES OF AN IDC SHIP) ARE NECESSARY TO MAKE THE DIAGNOSIS.

E. COMPLICATIONS

1. Epidemic spread of the disease.
2. Death.

F. TREATMENT

1. Fluids, oxygen.
2. Isolate (strict respiratory if pneumonia present).
3. Tetracycline 500mg PO qid x 10 days, (Streptomycin is drug of choice if available).
4. Sulfonamides: only if the patient is allergic to Tetracycline and Streptomycin is not available.

G. DISPOSITION

1. Contact a Medical Officer and prepare for MEDEVAC.

RELAPSING FEVER

A. GENERAL CONSIDERATIONS

Relapsing fever is a spirochetal disease characterized by periods of fever lasting 3-10 days, alternating with afebrile periods of 5-7 days. It is transmitted by the bite of a body louse(epidemic form). It can also be transmitted by ticks (endemic form), but the disease is less severe (though it has more periods of relapse).

B. ESSENTIALS OF DIAGNOSIS

1. Abrupt onset of:

   a. Fever (102 - 104^{0}F) and chills.
   b. Nausea, vomiting and anorexia.
   c. Tachycardia.
   d. Severe headache and photophobia.
   e. Arthralgia and myalgia.

2. Malaise.
3. Cough, tachypnea.
4. Macular or petechial rash.
5. Hepatosplenomegaly may develop.
6. Delirium may occur during the high fever.
7. Upper abdominal pain is fairly common.
8. The initial attack terminates abruptly in 3-10 days. It relapses in about a week. The form from the body louse typically has one relapse, while that from tics has multiple relapses.
9. Jaundice may occur.

C. LABORATORY TESTS

1. Blood smears.
2. CBC with differential.
3. Urinalysis.

D. LABORATORY FINDINGS

1. The spirochetes can be seen in blood smears taken during fever spikes (using Wright's or Giemsa's stain.
2. Normal or slightly elevated (WBC).
3. May see bilirubinuria.

E. COMPLICATIONS

1. Complications are rare in otherwise healthy adults.

F. TREATMENT

1. Tetracycline or erythromycin 500mg PO qid x 10 days.
2. Procaine Penicillin (600,000 units IM and repeat in 12-24 hours) is also effective (antibiotic treatment may lead to Jarish-Herxheiner reaction with severe rigors, high fever, and hypotension).
3. Supportive care.
4. Delouse the patient (if epidemic form).
5. Tylenol for fever.

G. DISPOSITION

1. Contact a Medical Officer for further advice and MEDEVAC.

TRICHINOSIS

A. GENERAL CONSIDERATIONS

Trichinosis is a disease caused by a round worm infestation of the muscles as a result of the ingestion of raw or improperly cooked pork containing encysted larvae.

B. ESSENTIALS OF DIAGNOSIS

1. STAGES OF SYMPTOMS

   a. Usually within 1-2 days if ingestion:

      1) Diarrhea, abdominal pain and nausea.
      2) Sometimes prostration and fever.

   b. Muscle invasion stage; week 1-6:

      1) Fever, edema of eyelids, conjunctivitis and subconjunctival hemorrhages.
      2) CNS changes if the CNS is involved in the invasion.
      3) Tachycardia and CHF if the heart is involved in the invasion.

2. The muscles most commonly involved are: diaphragm, tongue, eye, deltoid, pectoral, gastrocnemius and intercostal muscles.

C. LABORATORY TESTS

1. WBC with differential

D. LABORATORY FINDINGS

1. Eosinophilia

E. COMPLICATIONS

1. Cardiac failure
2. Cerebral involvement
3. Pneumonia

F. TREATMENT

1. Provide supportive care, including analgesics.
2. The severely ill may require Prednisone (consult M.O.).

G. DISPOSITION

1. Refer the patient to a Medical Officer ASAP.